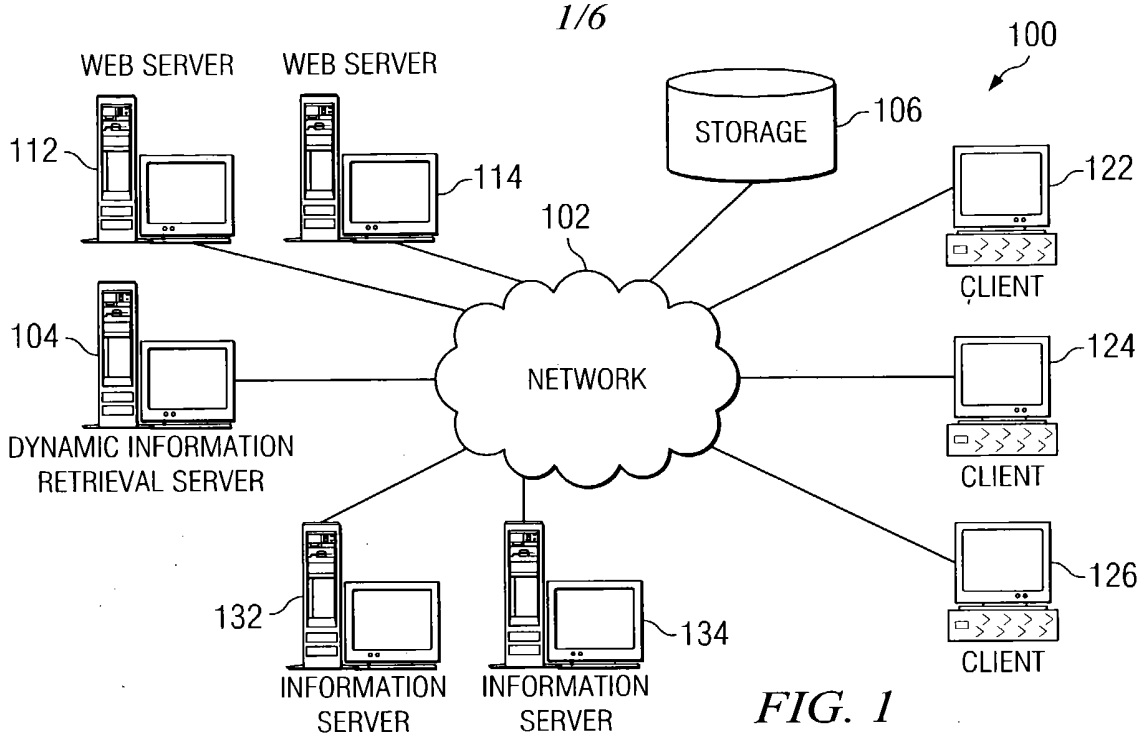
100
WEB SERVER
WEB SERVER
112
114
STORAGE
106
102
122
CLIENT
104
NETWORK
124
CLIENT
DYNAMIC INFORMATION
RETRIEVAL SERVER
126
CLIENT
132
134
INFORMATION
SERVER
INFORMATION
SERVER

FIG. 1

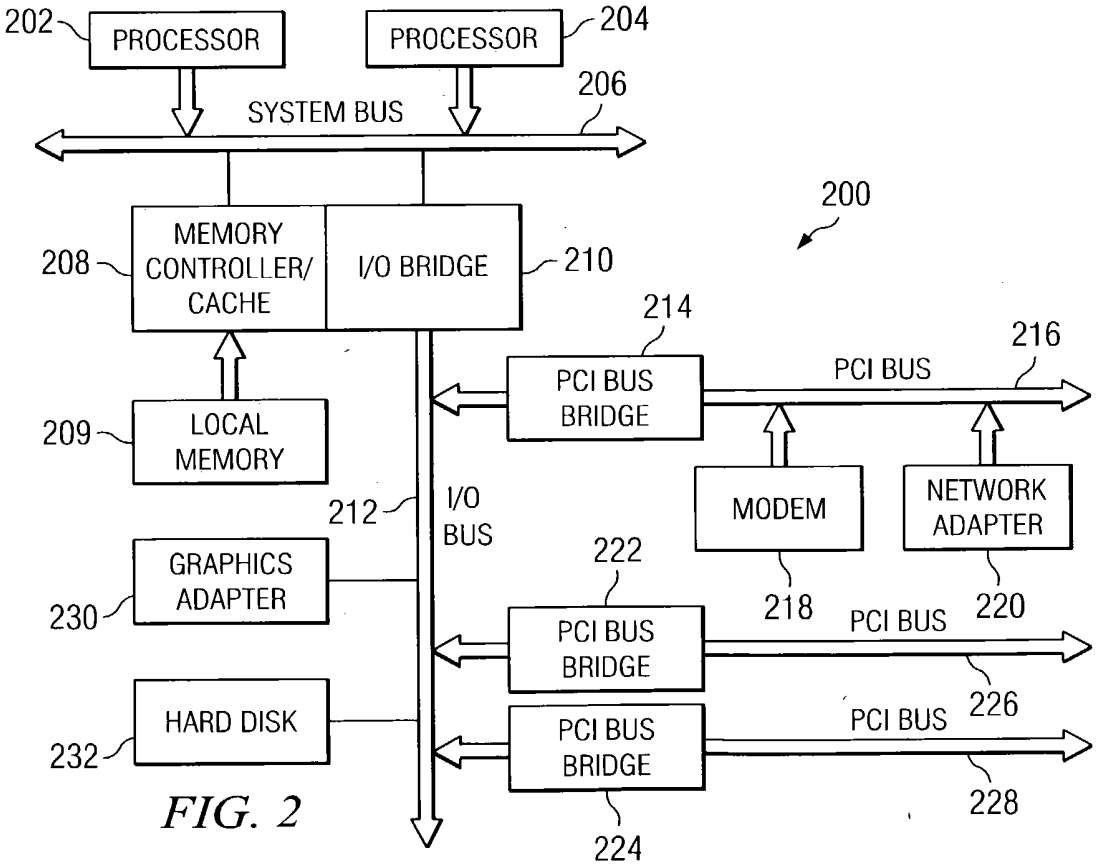
202
PROCESSOR
PROCESSOR
204
206
SYSTEM BUS
200
208
MEMORY
CONTROLLER/
CACHE
I/O BRIDGE
210
214
216
PCI BUS
BRIDGE
PCI BUS
209
LOCAL
MEMORY
212
I/O
BUS
MODEM
NETWORK
ADAPTER
222
GRAPHICS
ADAPTER
230
218
220
PCI BUS
PCI BUS
BRIDGE
226
HARD DISK
232
PCI BUS
PCI BUS
BRIDGE
228
224

FIG. 2

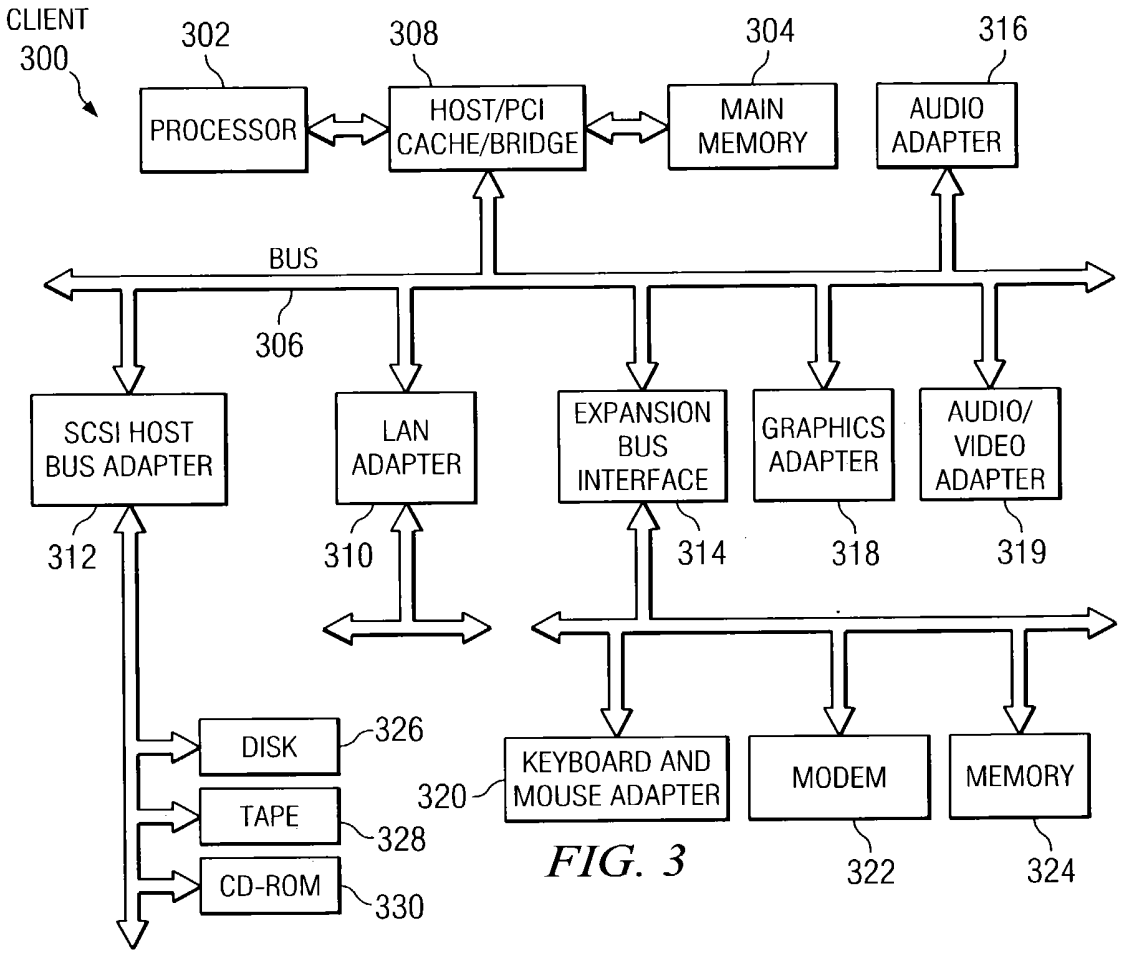
CLIENT
300
302
PROCESSOR
308
HOST/PCI
CACHE/BRIDGE
304
MAIN
MEMORY
316
AUDIO
ADAPTER
BUS
306
SCSI HOST
BUS ADAPTER
312
LAN
ADAPTER
310
EXPANSION
BUS
INTERFACE
314
GRAPHICS
ADAPTER
318
AUDIO/
VIDEO
ADAPTER
319
DISK
326
TAPE
328
CD-ROM
330
320
KEYBOARD AND
MOUSE ADAPTER
MODEM
322
MEMORY
324

FIG. 3

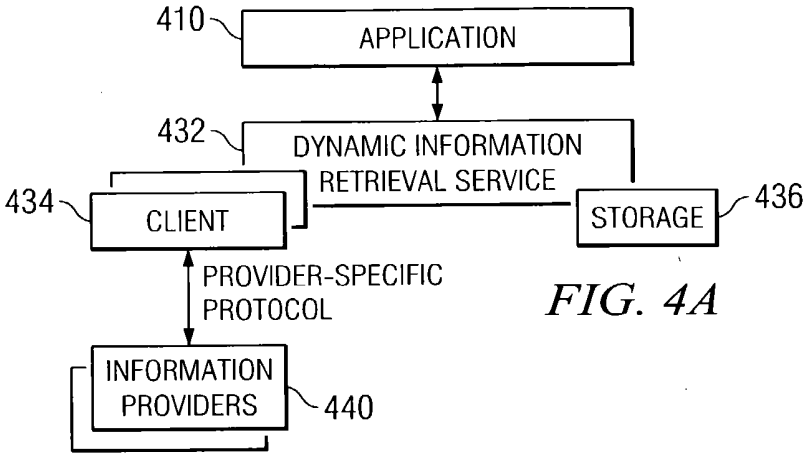
410
APPLICATION
432
DYNAMIC INFORMATION
RETRIEVAL SERVICE
434
CLIENT
STORAGE
436
PROVIDER-SPECIFIC
PROTOCOL
INFORMATION
PROVIDERS
440

FIG. 4A

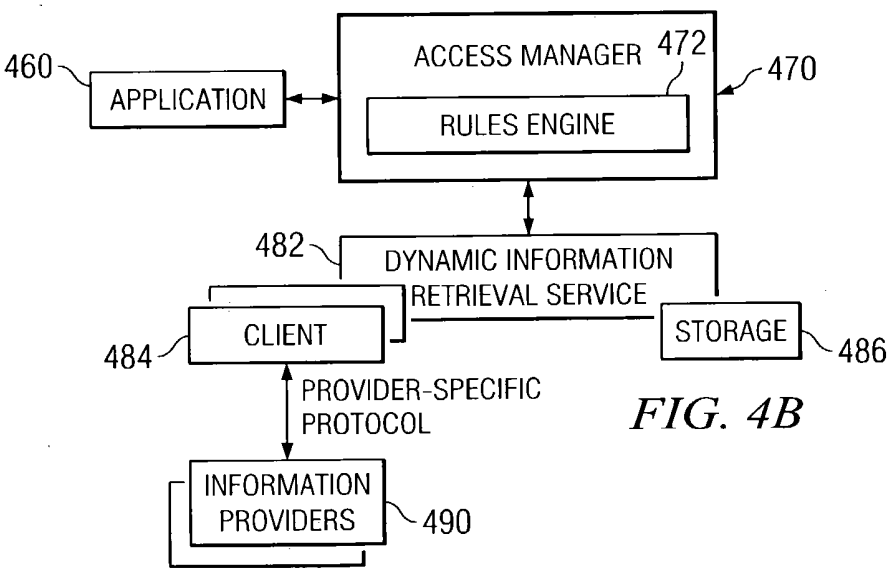
460
APPLICATION
ACCESS MANAGER
472
470
RULES ENGINE
482
DYNAMIC INFORMATION
RETRIEVAL SERVICE
484
CLIENT
STORAGE
486
PROVIDER-SPECIFIC
PROTOCOL
INFORMATION
PROVIDERS
490

FIG. 4B

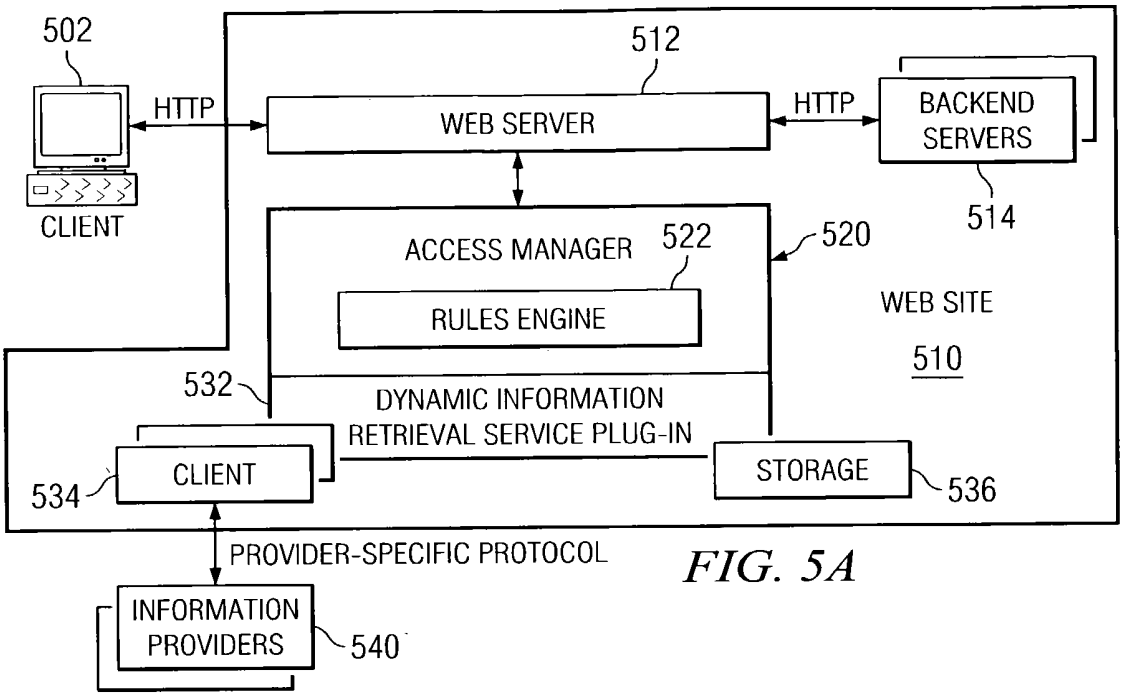
502
512
HTTP
WEB SERVER
HTTP
BACKEND SERVERS
514
CLIENT
ACCESS MANAGER
522
520
RULES ENGINE
WEB SITE
510
532
DYNAMIC INFORMATION RETRIEVAL SERVICE PLUG-IN
CLIENT
534
STORAGE
536
PROVIDER-SPECIFIC PROTOCOL
INFORMATION PROVIDERS
540

FIG. 5A

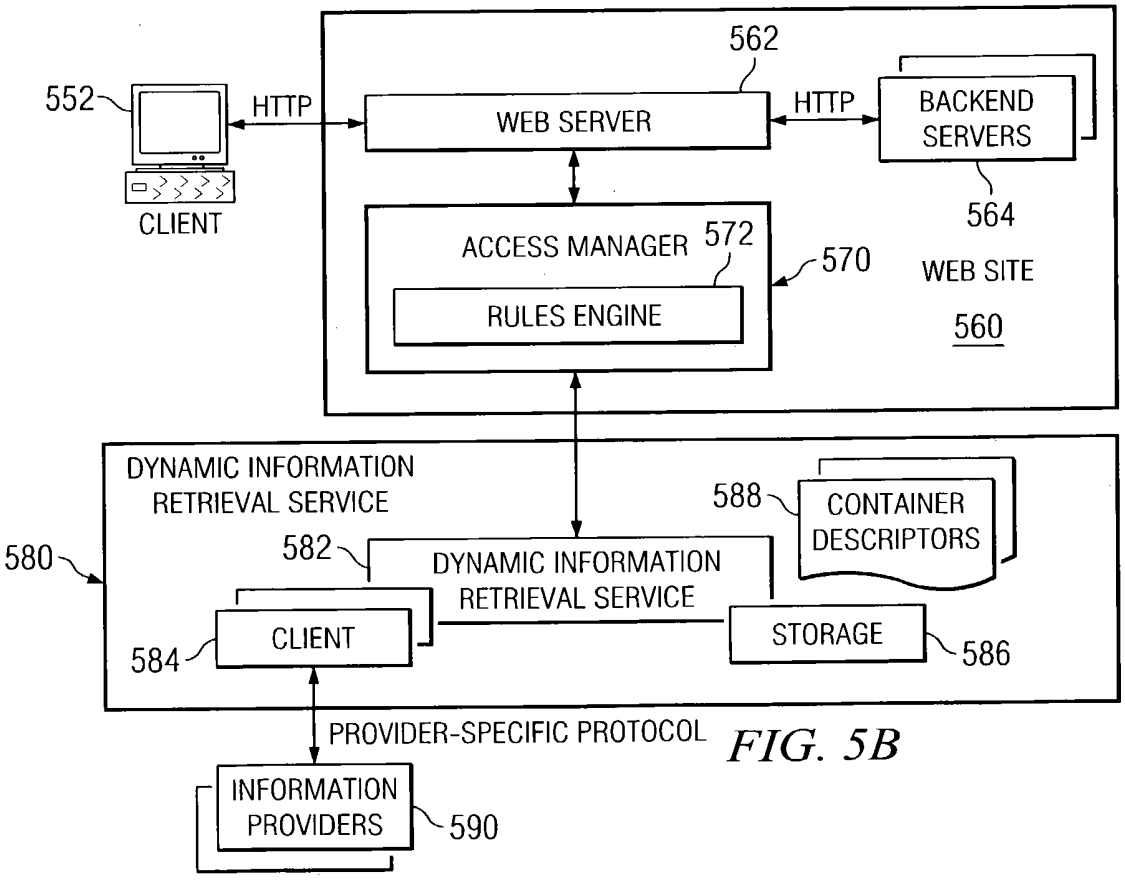
562
552
HTTP
WEB SERVER
HTTP
BACKEND SERVERS
564
CLIENT
ACCESS MANAGER
572
570
RULES ENGINE
WEB SITE
560
DYNAMIC INFORMATION RETRIEVAL SERVICE
588
CONTAINER DESCRIPTORS
580
582
DYNAMIC INFORMATION RETRIEVAL SERVICE
CLIENT
584
STORAGE
586
PROVIDER-SPECIFIC PROTOCOL
INFORMATION PROVIDERS
590

FIG. 5B

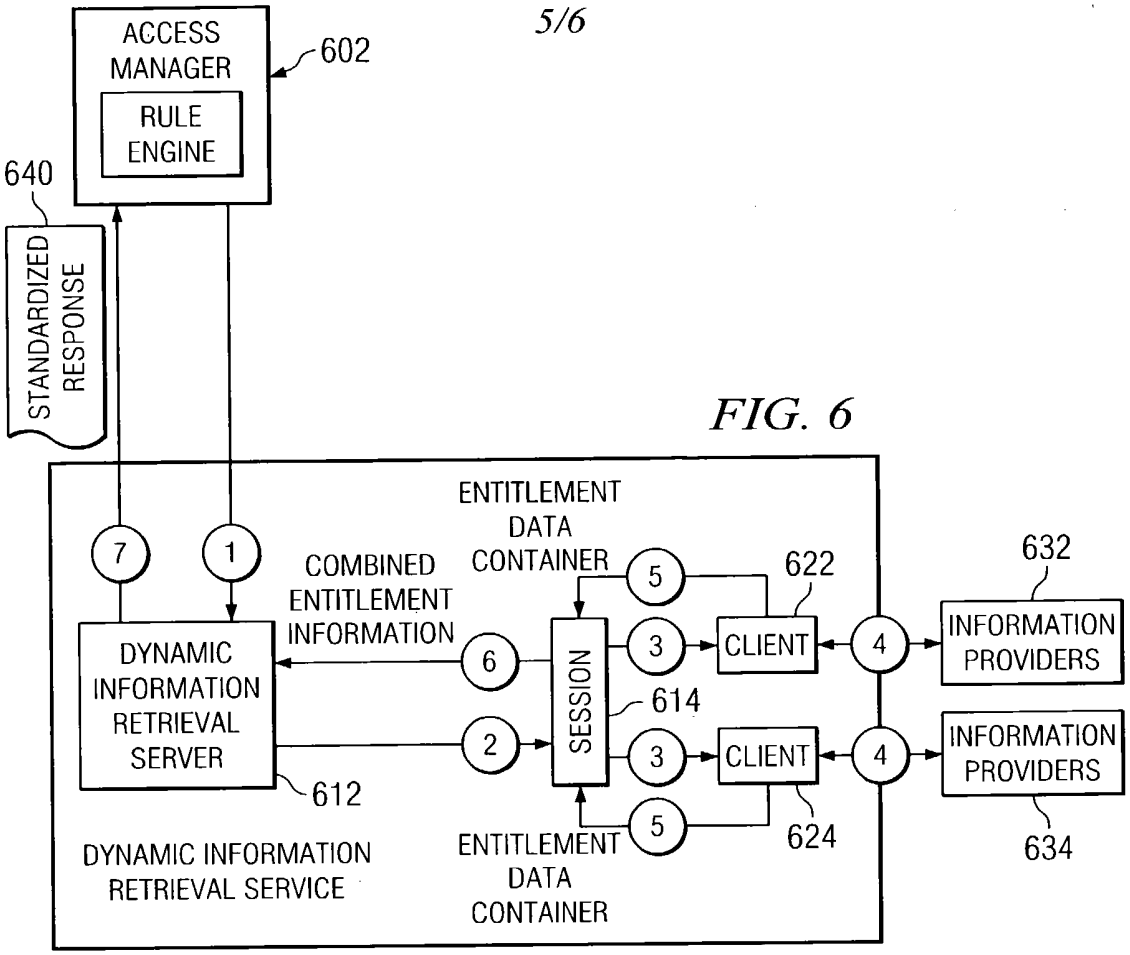

FIG. 6

```
<containerName>
        <attributeName1>data1</attributeName1>
        <attributeName2>data2</attributeName2>
        . . .
        <attributeNameN>dataN</attributeNameN>
        <subContainerName1>
                <attributeName>data</attributeName>
                . . .
        </subContainerName1>
        <subContainerName2>
                . . . sub-container data...
        </subContainerName2>
        . . .
        <subContainerNameN>
                . . . sub-container data...
        </subContainerNameN>
</containerName>
```

FIG. 7

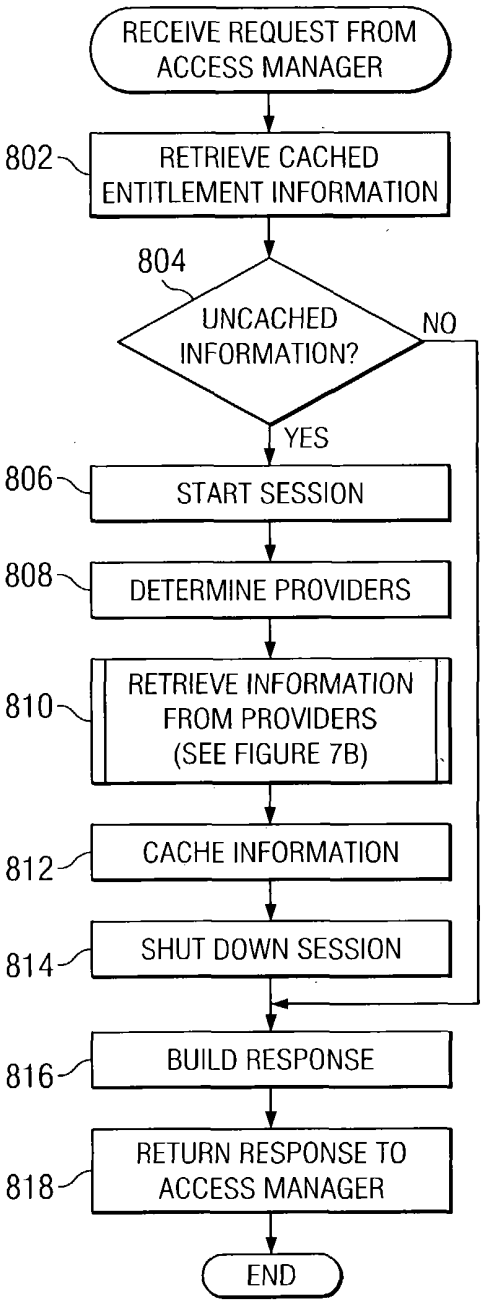
RECEIVE REQUEST FROM ACCESS MANAGER
802
RETRIEVE CACHED ENTITLEMENT INFORMATION
804
UNCACHED INFORMATION?
NO
YES
806
START SESSION
808
DETERMINE PROVIDERS
810
RETRIEVE INFORMATION FROM PROVIDERS (SEE FIGURE 7B)
812
CACHE INFORMATION
814
SHUT DOWN SESSION
816
BUILD RESPONSE
818
RETURN RESPONSE TO ACCESS MANAGER
END

FIG. 8A

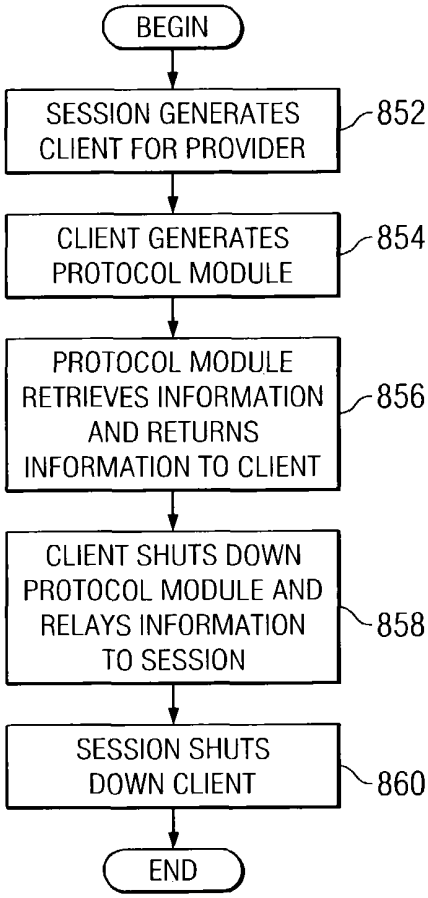
BEGIN
SESSION GENERATES CLIENT FOR PROVIDER
852
CLIENT GENERATES PROTOCOL MODULE
854
PROTOCOL MODULE RETRIEVES INFORMATION AND RETURNS INFORMATION TO CLIENT
856
CLIENT SHUTS DOWN PROTOCOL MODULE AND RELAYS INFORMATION TO SESSION
858
SESSION SHUTS DOWN CLIENT
860
END

FIG. 8B